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Lauren Barker, Student

Mark Swanson, PhD, Committee Chair

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Drink Switch Program in South LA Schools

Capstone Project Paper

A paper submitted in partial fulfillment of the
requirements for the degree of

Master of Public Health

in the University of Kentucky College of Public Health

by

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Abstract

Sugary drinks, including sports and energy drinks, are the number one source of added sugar in the American diet.¹ Excess sugar consumption can lead to health complications such as overweight and obesity, and obesity-related chronic diseases such as diabetes, high blood pressure, and cardiovascular disease.² Sugary drink consumption among youth in Los Angeles is particularly high, and teenagers in Service Planning Area (SPA) 6 of Los Angeles have some of the highest consumption rates in the county, with one out of two reporting consuming at least one sugary drink per day.³ Based on the correlation between sugar consumption and health, these high rates put these individuals at increased risk for health complications later in life. Reducing the intake of sugary beverages will lead to a decrease in disease incidence, even if there is no weight loss and calorie consumption remains constant.⁴ Drink Switch is a proposed intervention that will target high school students at eight high schools in SPA 6 and aim to change healthy drink behavior through environmental change, classroom curriculum, and a peer-led social marketing component.

A. Target Population & Need

Sugary drinks, including sports and energy drinks, are the number one source of added sugar in the American diet.¹ Added sugar and calories are correlated with a host of health problems including obesity and diabetes.² There is also an association between sugary drink consumption and decreased consumption of more nutritious foods like milk, fruits, and vegetables.² Negative health issues may further escalate from there. For example, with added weight and obesity, along with the increased risk of diabetes, comes the added risk of cardiovascular diseases.² When these issues start early in life, they are much more likely to exist into adulthood and add additional cardiovascular risks like high cholesterol and blood pressure.² Although the problem of sugary drinks is widespread, the burden in communities of color is particularly elevated, especially among teenagers. Nearly two-thirds of African American and Latino adolescents in California drink at least one sugary drink per day.²

In 2011, the sugary drink consumption rate patterns in Los Angeles (LA) mirrored California's numbers, with highest rates of those consuming at least one beverage a day among African Americans (49%) and Latinos (42%) (Figure 1).³

Sugar Sweetened Beverage Consumption* Among Adults & Children 2011

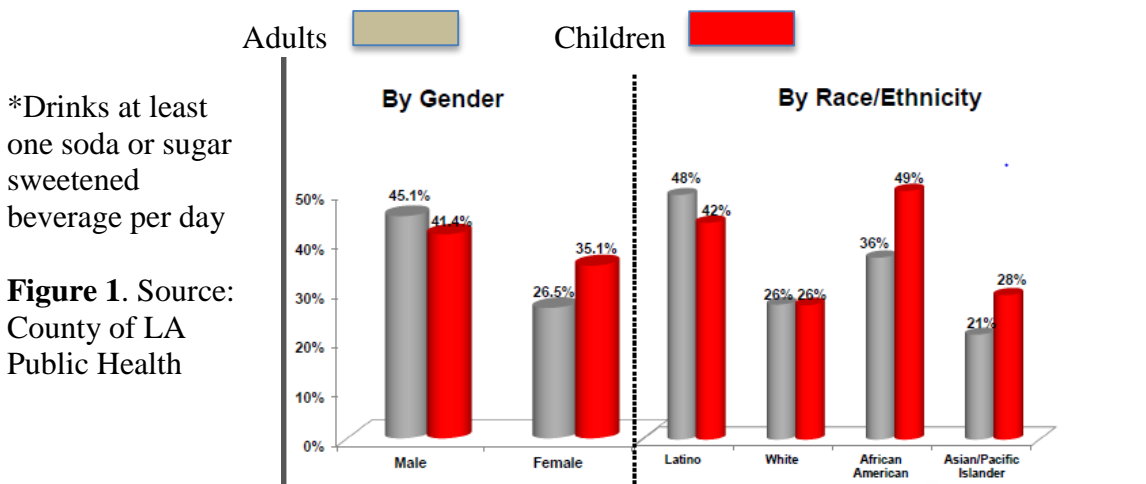


Figure 1. Source: County of LA Public Health

The rate of sugary beverage consumption among LA’s teens is alarmingly high. One study showed that the incidence of a number of diseases can be reduced by decreasing the intake of sugary beverages, even if calories remain the same and there is no weight loss.⁴ The latest available data from the 2011 LA County Health Survey reveals over half of all adolescents ages 12-17 consumed at least one soda or sweetened drink per day (Figure 2).³

Sugar Sweetened Beverage Consumption* Among Children, by Age Group 2007-2011

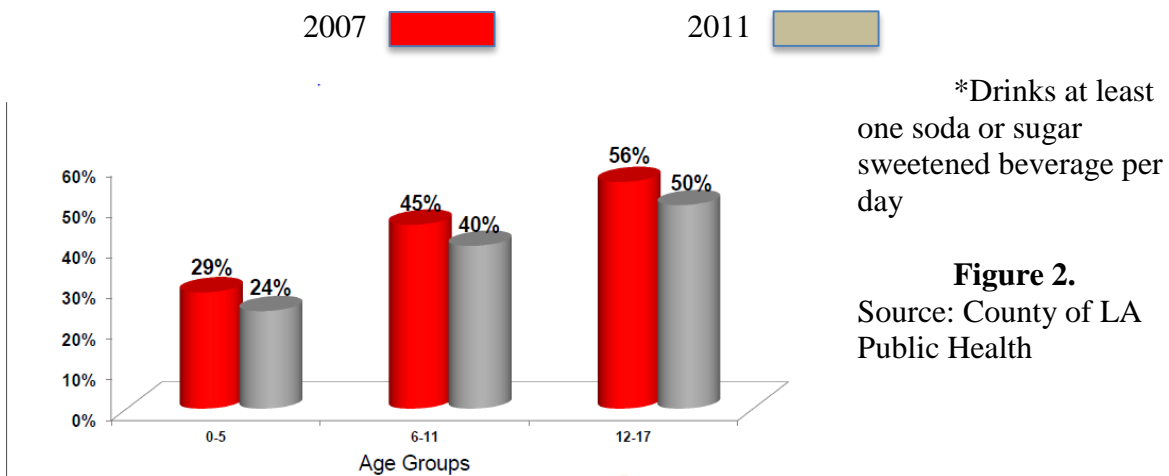


Figure 2.
Source: County of LA Public Health

Among all children ages 0-17, adolescents have the highest rates of sugary beverage consumption by 10% more than the next-highest age group.² While the rates of sugary beverage consumption have decreased from 2007-2011, still half of all 12-17 year olds consume at least one sugary beverage a day. The current trend is promising but shows there is still more work to be done in making this target population healthier.

Set within the sprawling LA County of 10.02 million people, Service Planning Area 6 (SPA 6) covers the communities of Athens, Compton, Crenshaw, Florence, Hyde Park, Lynwood, Paramount, and Watts (see Figure 3). SPA 6 includes just over one million people, 68% of whom are Latino, followed by the next largest demographic of

African Americans at 28%.⁵ The area faces unique challenges including obesity, inadequate fruit and vegetable consumption, food deserts, access to healthcare, and food insecurity, resulting in poor health outcomes. Nearly a quarter of the county's adults are obese and for children in grades 5, 7, and 9, the rate is 22.4%.⁵ SPA 6 suffers even higher rates of obesity for children, with childhood obesity prevalence in more than a quarter of all children at 25.7%.⁵

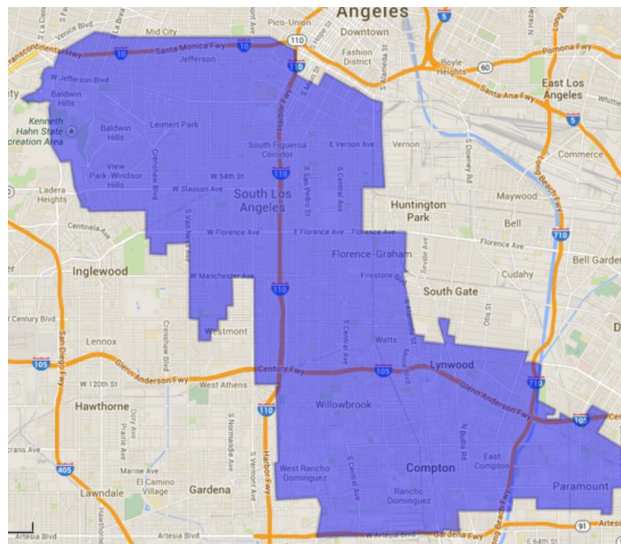


Figure 3: Map of SPA 6⁶

In terms of related health behaviors, SPA 6 has one of the lowest rates in LA County of fruit and vegetable consumption at 11.4%.⁵ Compared to other SPAs in LA County, SPA 6 also has high rates of fast food consumption among both children and adults.⁷ Access to healthcare is poor, both compared to LA County alone and nationally. In one year, more than 17% of children (0-17 years of age) had difficulty accessing medical care. Additionally, in 2013, almost a quarter of the households in SPA 6 were receiving food stamps.⁷

It is clear from this data that special attention needs to be focused on LA County, particularly among less-affluent, high-minority areas such as SPA 6.

Health Factor	National (%)	LA County (%)	South SPA (%)
Adults that consume 5 or more fruit and vegetable servings/day²	23.4	15.4	12.4
Children who eat fast food at least once a week²	N/A	50.5	60.7
Children 0-17 years who have difficulty accessing medical care²	N/A	12.3	17.7
Households with incomes <300% Federal Poverty Level who are receiving food stamps²	N/A	16.8	24.2
Children in grades 5, 7, and 9 who are obese (BMI above the 95th percentile)²	N/A	22.4	25.7

Table 1: National, LA County, and SPA 6 Health Factors, 2013 data⁷

The scope of this proposed program will draw from evidence-based interventions to focus on one of the highest contributors of calories to American diets—sugary beverages.⁸ The intervention will be called Drink Switch, and it will specifically target adolescents, ages 13-17, living in LA County’s SPA 6 and attending high school. Drink Switch will work to address these issues by changing the school environment and student behaviors so that water consumption will become more widespread and sugar consumption through sodas will decrease, ultimately impacting almost 12,000 students.

The LA County Department of Public Health (LACDPH) has elected to partner with 10 high schools from the Los Angeles Unified School District (LAUSD) located within SPA 6. Nearly 15,000 adolescents between 13 and 17 years of age attend ten of the largest public high schools in South LA.⁷ These students—grades 9 – 12—comprise the target audience for the Drink Switch intervention and control groups. They include students enrolled in the following schools:

1. Santee Education Complex (1,870 students)
2. Wallis Annenberg High (359 students)
3. Manual Arts Senior High (1,867 students) *control group
4. Thomas Jefferson Senior High (1,425 students)
5. John C. Fremont Senior High (2,524 students)
6. South East High (2,591 students)
7. David Starr Jordan Senior High (735 students)
8. Crenshaw Senior High (1,221 students)

9. Dorsey Senior High (1,212 students) *control group
10. Augustus F. Hawkins High—A, B & C (1,023 students)

The schools are virtually 100% minority enrollment with Latinos as the majority. Additionally, between 50-65% of the student population is considered economically disadvantaged based on students' eligibility for free or reduced-price lunch.⁹

Decreasing sugar-sweetened beverage consumption would have clear health benefits. Sugary drinks are a prime contributor to Americans' sugar intake.⁸ In fact, sugar-sweetened beverages, energy and sports drinks are the largest single source of added sugars in a person's diet—more than 34% of all added sugars.⁸ A recent study showed that reducing sugar intake in children, even if calories remain the same and there is no weight loss, can reduce a number of diseases.⁴ The 10-day study resulted in decreases in cholesterol and blood pressure simply by restricting sugar intake. Moreover, a meta-analysis of 88 studies showed that even a 25% reduction in soft drinks would result in a reduction of calories, which “would be expected to substantially reduce the risk of obesity and diabetes and may also reduce the risk of heart disease and other conditions.”¹⁰ With this compelling evidence, it makes sense to focus the program on curtailing consumption of such sugary drinks.

B. Program Approach

The proposed intervention will combine environmental changes in the schools, healthy drink lessons, and peer-organized social marketing that will reach community members beyond the school walls. The program approach will center on a Drink Switch campaign designed to substitute water in place of sugary beverages such as sodas, sports drinks and energy drinks.

Project Component	Evidence-based	Target Audience	Supporting Pieces
Community engagement—formation of Community Advisory Group (CAG)	--Huberman, Barbara, Klaus, Tom and Davis, Laura. “Strategies Guided by Best Practices for Community Mobilization.” Advocates for Youth. August 2014.	School administration, students, dietitians, parents, community members, club team coaches, business owners especially corner stores and restaurants, PTSA, YMCA, church pastors	Regular meetings to discuss implementation and progress of Drink Switch program
Water-filling stations	--Muckelbauer, Rebecca. “Promotion and Provision of Drinking Water in Schools for Overweight Prevention: Randomized, Controlled Cluster Trial.” Pediatrics. Volume 123, Number 4, April 2009.	High school students	Free aluminum water bottle
“Drink Switch” classroom science lesson series	Adaptation	9th graders at 8 intervention High Schools in South LA	Curriculum
Curriculum training for dietetics students	Adaptation	Cal State LA dietetics students	
Peer ambassador program with social marketing activities for school and community	--Centers for Disease Control. “Guide to Community Preventative Services. Health communication and social marketing: health communication campaigns that include mass media and health-related product distribution” Last updated March 4, 2015. --Roberts, Dawn C. and Black, Danielle. “Comparison of Interventions to Reduce Sun Exposure” Behavioral Medicine. August 7, 2010.	10 th -12 th graders	Social media workshops Advocacy Training workshops
Social marketing seminars and advocacy training	Adaptation	10 th -12 th graders	
Outreach to parents—information packets	--Cunha DB, et al. “Effectiveness of a Randomized School-Based Intervention Involving Families and Teachers to Prevent Excessive Weight Gain among Adolescents in Brazil” PLoS ONE 8(2), February 2013	Parents	

First, the intervention will start by installing new water-filling stations; the 12,000 students will each be incentivized to drink water with a free aluminum water bottle. This evidence-based strategy worked well in a 2009 study of grade school children in Germany.¹¹ With new water fountains and education, water consumption in the study increased by more than one glass a day per student.¹¹ Additionally, high school vending machines will be surveyed and upgraded as needed to comply with current LAUSD Guidelines for Sales and Service of Non-School Meal Program Food/Beverages on Campus.¹² Like the United States Department of Agriculture (USDA) Smart Snacks Policy, these guidelines require that only plain water and non-sugary beverages be sold on school campuses.¹³

The environmental change of new water-filling stations will be supplemented with a series of science/health lessons on nutrition specifically focused on the benefits of water-drinking and the risks of sugary beverages. This course plan is based on a study in Brazil which demonstrated success with a 9-month educational lesson plan.¹⁴ In the study, nutritionists worked over time with repeated lessons; ultimately, the students participating in the intervention showed a reduction in sugary drink consumption.¹⁴

Using the Brazil study as a model, the Drink Switch campaign will work in partnership with the LA District of the California Academy of Nutrition and Dietetics. LACDPH will work in conjunction with nutritionists and dietetic interns to write and deliver the curriculum. The curriculum will allow a consistent message to be delivered in monthly lessons according to an appropriate timeline. Adapted from the Brazil study, the curriculum for Drink Switch will be implemented over the course of 9 months, one full

class day per month for a total of 9 classes. This way the material will not interfere with the core science class curriculum required for the year and the Drink Switch messages will be repeated over a longer period of time for better retention. Moreover, weekend-long trainings will be held for the dietetics students who will be implementing the curriculum through lessons in the 9th grade science classes. At these trainings, participants will learn how to adopt a non-stigmatizing approach to the subject matter and how to positively convey the health and economic benefits of water-drinking. The non-stigmatizing approach that will be taught will strike a balance between reassuring students that the environment has not been supportive in making healthy choices with sodas so widely available. At the same time, it will encourage personal responsibility and healthy choices. In this way, blame is not placed on the individuals for making less than ideal drink choices. The curriculum will include healthy nutrition and physical activity, but the major focus needs to reinforce the idea that water is a natural, refreshing thirst-quencher that helps maintain a healthy body. These positive messaging will be important and more motivating than making people feel bad for choosing unhealthy alternatives like sugary beverages. Additionally, since the dietetics students might not have much experience in teaching, they will be prepared for the classroom setting by sitting in on the science classes for two weeks before the program start and communicating with the science teachers on how best to implement the new material into the rest of the required class curriculum.

In addition to environmental change at the schools and additional curriculum in the classroom, information packets will be sent home to parents. One study in Brazil showed that when parents were also included in the educational intervention with

brochures being sent home, their motivation to change behavior improved as well.¹⁴ For 9th grade students, an information packet will be sent home to their families encouraging healthy drinks at home. The family packet will suggest reducing the purchase of sodas and give a brief summary of the potential health risks of increased sugar consumption. This parent and family component has been shown to work well to increase water consumption.¹⁴ Ideally, the packet will include free coupons for inexpensive drinking water sources, ranging from bottled water to home water filtration systems like Brita.

The targeted educational campaign will run for the nine months of the 9th grade school year and include multiple message points. Subsequent years will include social marketing messaging by upper class students who have already participated in the Drink Switch lessons their first year of high school. The evidence that peer mentoring is an effective way to influence health behaviors is seen in several studies.^{15,16} The peer ambassador team will receive seminars in creative social marketing so their work can help sustain the messaging with their peers at school as well as share messaging with community organizations. All campaign materials will be bilingual and culturally appropriate as determined by the focus groups.

The SPA 6 intervention will focus specifically on the 9th grade class, and in subsequent years, students in grades 10-12 who have gone through the program will be recruited to implement social marketing strategies and serve as peer ambassadors and role models for the Drink Switch campaign. Social marketing “applies marketing thoughts to the introduction and dissemination of ideas and issues, and...is a strategy for translating scientific knowledge into effective education programs.”¹⁷ It is good for taking public health messages to larger audiences than possible through small group public health

efforts. The Guide to Community Preventive Services notes that the social marketing campaigns usually make use of four channels: 1) mass media like television or radio, 2) small media including brochures and posters, 3) social media like Facebook and Twitter, and 4) interpersonal communication like one-on-one sessions or group education.¹⁸ In addition to focused marketing, others have shown how the combination of messaging and an additional giveaway or incentive helps advance behavior changes.¹⁶ For example, one study promoting sun safety combined approaches, including mass media and small media to educate people about sun exposure risks, interpersonal group education tactics to shift social norms about tanning, and free sunscreen samples to facilitate the desired behavior change.¹⁶ Similar work with condom giveaways and coupons for child car seats has shown success in changing behaviors as well.^{19,20} The Drink Switch campaign will not only use mass media and small media, but also give away aluminum water bottles to make the desired behavior change to water-drinking an easier shift for adolescents. Additionally, the ambassadors will be invited to create their own YouTube videos to help with the educational marketing. By empowering the ambassadors to come up with their own creative messages, it will not only reinforce the Drink Switch messages but also help spread the word to others.

To jumpstart the social marketing aspect of the project, a spokesperson from longer running campaigns (i.e. “Kick the Can”¹⁹) will be invited to share their work with the upper classmen (grades 10-12) in after school social marketing seminars. Hearing from others who have been successful will help fuel students’ creativity and generate social marketing ideas that will add to the sustainability of the campaign. The upper classmen will be challenged to promote healthy drink messages through school

newspapers, announcements, posters, and other social marketing activities. They will also be encouraged to seek partners in the community for their social marketing activities including club sports teams, churches, and scouting organizations where they may be members. Creative approaches to disseminating health messages like the Happiness Stand can be used as a model for the teens both on campus and in the community.²² The Happiness Stand is a way to educate the public on what goes into making a sugary beverage like Coca Cola, and passerby stop by the stand to see what all is added to a plain glass of water in order to turn it into a soda. By the end of the exhibit, the viewers are more amenable to just choosing a plain glass of water for a refreshment. An intra-school competition among different grade levels could also help sustain the messaging. This competition could be based on class participation using the free water bottles supplied to the students. An incentive to participate in the competition such as benefits for the winning school could encourage the school staff to become more involved in the program as well.

The logic model for the Drink Switch campaign can be found in the appendix and includes the planning phase, implementation activities and expected outcomes, both short- and long-term.

Through the planning phase of the project, LACDPH has and will continue to use Rand's "Getting to Outcomes" model.²³ The first several steps of identifying a target audience and desired outcomes and finding existing programs and best practices to model has already been accomplished. The plan to implement the grant will unfold from the logic model.

Following standard social marketing procedures, campaign elements and messages will be regularly reviewed with the target population via focus groups to ensure the cultural appropriateness and needed resonance to change behavior. The focus sessions will be tiered according to cohort to include separate groups for students, parents, and teachers. These focus groups will begin before the collateral materials—posters, parent letters, banners, stickers, booklets—and curriculum are finalized so the participants are providing input into what resonates most with them and what will motivate them to change behaviors. After conducting the focus groups, LACDPH will make necessary changes to the marketing campaign to ensure the most effective outcome before the final product is launched.

Two of the LA schools—Dorsey Senior High (1,212 students) and Manual Arts Senior High (1,867 students)—will be used as controls for the project and they will not receive water-filling stations, program instruction, or social marketing training for peer ambassadors. These two schools were chosen for the similarity in size and student body to two nearby schools—Crenshaw Senior High (1,221 students) and Santee Educational Complex (1,810 students), respectively. Moreover, because these matched schools are co-located, they will have similar community influences so the program effect will be more isolated in our evaluation. As an incentive for these schools to participate in the control group, water refilling stations will be installed in these two high schools at the end of the program's run.

This project will build on the qualitative data by including audience segmentation and quantitative survey data. The student intervention group, for instance, will be segmented by individual schools and grade levels to test appropriate messaging.

Additionally, Likert scale surveys on the appeal of the program elements will be conducted among the segmented student groups. Data from these surveys will help build a more effective intervention.

LACDPH will also work in collaboration with their dietetic partners from the Los Angeles Dietetic Association to develop a curriculum that will leverage the awareness campaign and provide direct messaging and activities around healthy beverages. The dietitians will be given a structure to work with the teachers at the intervention schools so that the new Drink Switch material can support the existing classroom curriculum or be easily implemented into the science lessons. This will give the 9th grade science teachers more of a say as to how Drink Switch is integrated in their classrooms without being disruptive of their original teaching plans for the course. The program will start out small with only a few classes participating. These students will be immersed in the coursework for a few weeks in order to test how well the material resonates with and is understood by its intended audience. A pretest of student awareness will establish a baseline to compare to outcomes once the campaign and curriculum delivery is completed. After both the media aspect and classroom curriculum have been tested, the department will be ready to expand the campaign to reach its whole target audience.

Additionally, once the curriculum is developed, LACDPH program leaders will conduct continuous process evaluations of the Drink Switch program implementation. In class observation and spot interviews with dietetic instructors, science teachers and students will help refine what is working and what is not. This focus will form the structure needed for the project's Continuous Quality Improvement as specified under the "Getting to Outcomes" model.²³

To assure that Drink Switch program is implemented with fidelity, training will be conducted and programs will be monitored through the classroom observations mentioned above. It is important to ensure that everyone participating in the program has the same idea of how the Drink Switch campaign will be carried out and what the desired outcome is—that is, encouraging high school students to switch from drinking sugary beverages to drinking water instead.

LACDPH will conduct trainings convenient to SPA 6 schools and train Cal State LA dietetics students who will be leading the nutrition lessons at the schools. The lessons will follow the Drink Switch curriculum and be incorporated into the 9th grade biology classes. Lessons will include the role of water in cellular functions and the importance of a healthy diet in fueling the body. Other components will address other healthy behaviors as well, such as good nutrition and adequate physical activity. Training will be designed so that there is one initial full day of training, followed by several half-day refresher sessions over the course of the program. Additionally, being in the eight intervention schools regularly will allow for additional check-ins. Once a month, for instance, LACDPH will check with the schools to ensure that the environment has been changed to include new water fountains and water-filling stations and that they remain in good working condition. Drink Switch staff will also follow up with teachers to see if they are encouraging the use of the aluminum water bottles, and that science nutrition lessons are adequately covering the material on the health effects of water versus sugary beverages. Additionally, LACDPH will conduct an assessment midway through the first year to better assess whether the social marketing messages resonate with students and adequately reflect the goals of the program. The feedback will also

cover what participants liked and disliked so that this can help shape the program's execution. This will also give insight into which components have worked as planned and which need to be tweaked to become more efficient at driving the desired behavior change. LACDPH will be able to see what challenges and barriers have developed and how the program might be able to overcome and avoid these obstacles in the future.

As the Drink Switch program matures and the 9th graders progress into upper class, peer ambassadors, staff will need to ensure they have the training and materials they need to conduct creative educational activities like The Happiness Stand.²² The Happiness Stand activity was created by the Center for Science in the Public Interest and it includes a pop-up booth that offers the public 'happiness drinks.'²² The drinks involve 10 packets of sugar and a little caramel flavored soda water to truly show what is in a soda. Most participants from the public who see the drink being mixed want absolutely nothing to do with it once they see what goes into it. Training the peer ambassadors in types of social media tactics such as Facebook and Twitter, and other strategies involving small media like posters and school announcements, will not only create opportunities for multiple messaging, but it will also work to change the high school culture. These youth can also be trained in advocacy so that they become ambassadors in the community as well. The advocacy training will include a one-day seminar on message formation, coalition-building, and role-playing.

Community-based planning and oversight will be an important component of the campaign. The Community Advisory Group (CAG) for the Drink Switch campaign will be inclusive of the intervention school administration, students, dieticians, parents, and community members. The CAG will consist of the principal or wellness coordinator

from each of the eight high schools targeted in SPAs 6 where Drink Switch will be implemented. The 9th grade biology science teachers will also be invited to the CAG given the nutrition lessons will be part of their science classes.

The CAG will be expanded into the school community to include coaches, Parent Teacher Student Associations (PTSA), and student youth advocates. Coaches will be able to reinforce healthy beverages for their team athletes, while the PTSA can help ensure PTSA-sponsored events and field trips are in sync with the Drink Switch campaign goals. The PTSA will need a complete presentation on the goals and outcomes of the Drink Switch campaign. Where fundraising has been generated from sodas and sugary drinks, new sources of revenue will need to be created, such as gift wrap, healthy snacks, and pet accouterments. Student advocates will also contribute greatly to the campaign, sharing both the youth perspective and serving as peer-to-peer advocates for their friends. Additionally, a school champion will be identified at each intervention school and serve as the liaison between the Drink Switch program and the school they represent. These individuals will be someone who is excited about the program and knows the school and those at the school well. The priority of serving as a school liaison will be given to the science teachers, but the position will also be open to other representatives of the schools.

Important groups to involve in the CAG are entities that serve beverages like local corner storeowners and fast-food outlets. By bringing these business owners on board early in the project, they can have the chance to learn about the campaign and find ways to change their inventory to support healthier choices in their stores. The idea is they can still make money and ensure good business strategies by understanding that the campaign

is going to change their customers' preferences and buying habits. Specifically, the storeowners can begin stocking their shelves with healthier beverages like plain bottled water, unsweetened teas, vegetable juices, sparkling water, and fruit-infused waters.

Finally, other community organizations like the YMCA and church pastors should also be represented to ensure the entire environment is changing to make water the obvious drink choice over sugary beverages. Moreover, community influencers, who will be able to connect with the demographic make-up of SPA 6, such as the Brotherhood Crusade and the Watts/Century Latino Organization will be essential.

The group will come together to create a shared vision of the outcomes for the Drink Switch project as recommended in the "Strategies Guided by Best Practices for Community Mobilization."²⁴ Solid leadership from the schools, dietetics association, LACDPH and the community will focus on empowering their youth to consume less sugar and more water to create a healthier tomorrow. The group can rally behind taking back the health of their children. They will be asked to help with any needed fundraising and share in the analysis of program evaluation and data.

In the third and final year of the program, steps will be taken to build sustainability. Science teachers will be asked to take over the curriculum from the dietetics students and lead the education component in 9th grade. Additionally, peer ambassadors' social marketing activities need to become self-sustaining through legacy initiatives like The Happiness Stand and school posters. Moreover, ambassadors' work in the community to make water more available and affordable should start to bear fruit in terms of changing inventories at local stores and ultimately changing the beverage-choice environment.

The greatest perceived challenge of the program will be the behavior change needed to increase students' water consumption. Using the approaches across the socioecological model will give the program the best opportunity for success. This includes changing the community and school environments and social norms to intervening among families and educating the individual students. Another potential challenge to overcome is recruitment of social marketing ambassadors in the upper-grade levels. To keep this program and messages as “cool” and provide advocacy training to engage the students in something worthy of upper-class attention (versus the sentiment, “this is something I did as a freshman”) will be key. Developing a civics component where students can focus on changing policies including possible taxes on sodas can keep upper-classmen engaged. Keeping students engaged in the ambassadors program will also help keep interest in the program for all students, and convince them that switching to drinking water more often than sugary beverages is something they would be interested in.

C. Performance Measures & Evaluation

There will be two impact outcome goals for the Drink Switch campaign:

- 1) Students in the intervention program will show an increase in water consumption compared to those in the control schools;
- 2) Sugary beverage consumption will decrease among students attending the intervention high schools compared to those without the intervention in the control group.

The percent changes in water and sugary beverage consumption will be monitored at both the intervention and control schools, beginning with a baseline assessment that

will then be compared to post-intervention data. The data between the schools having the Drink Switch program and those that do not, will then be compared for significance.

In evaluating the effectiveness of the program, data for program outcomes will be collected by part time data collections staff in the form of pre-tests and post-tests. All 10 high schools, including the two control schools, will be surveyed, similar to the method seen in the Impact Outcome Evaluation Project (IOEP) report from the California Department of Public Health Nutrition Education and Obesity Prevention branch.²⁵ In the report, the department looked at pre- and post-test results for sugary drinks and water consumption.²⁵ The impact evaluation of the program was then determined from the data from these tests. Similarly, the Drink Switch program at LACDPH will implement pre- and post-tests to measure the program's effectiveness. With carefully designed surveys, the program will collect feedback on what impact the interventions had in terms of behavior change and drink consumption as compared to the control schools. The questionnaires need to be administered to all ninth-graders in their science classes before the program begins, and then again, after the nine-month education sessions. A second post-test will be given three months after the lessons have ended, when the 9th graders come back in the fall in their sophomore year. This test will evaluate the retention of the intervention's messages.

Students will be given 24-hour recall questionnaires which will include picture-based questions on number of glasses consumed of water, juice and soft drinks/energy drinks. The pictures will help aid consistency around how many ounces are in a typical glass. Teens will be asked to indicate how many glasses of 8 ounce or 4 ounce water or sugary beverage they consumed in the past day. Additional questions on both gender and

race will further evaluate the effectiveness of the curriculum and help determine any possible bias among boys and girls and Latinos and African Americans.

Finally, formative research around the students' beliefs and attitudes will be added to the pre-test survey to help assess students, baseline understanding of sugary beverages in terms of health impact. Questions on the survey will include:

- 1.) How concerned are you about the sugar content of sodas?
- 2.) What effects do you think soda has on your health?

This formative research will be useful in not only developing the curriculum so that it provides lessons at the appropriate level, but also in the later development of the social marketing outreach. In order to be most effective, the marketing messages need to hit the “sweet spot” so to speak, of the students' beliefs about sugary beverages identified in the formative research.

Additionally, beginning in year two of the program, a convenience sample of students in grades 10-12 will be surveyed to determine how sustainable any changes in beverage consumption has been and whether or not the social marketing campaign is effectively supporting the program aims of Drink Switch. Year Two is the launch of the Drink Switch ambassador campaign in these grades 10-12. These three grade levels will be surveyed separately since in year two, only 10th graders will have also had the opportunity to participate in the 9th grade curriculum and that may skew their responses. Likewise, in year three the 10th and 11th grades will have had the benefit of the freshman program to augment their social media efforts. There could be an expected increase in the effect of the program over time.

With evaluation surveys at both 9th grade levels and 10th through 12th grade levels, the mean difference in aggregate scores will be established for all ten high schools. The

data will be segmented according to gender and also race and ethnicity. The mean differences between pre- and post-surveys will be used to compare the students who had the Drink Switch program at their schools, and those who did not. The effect of the program on boys versus girls, and African Americans versus Latinos will also be examined for statistical significance.

An additional measure of program effectiveness will be readings of water flow meters from the schools' new water-filling stations. Baseline measurements will be taken showing how much water the students are drinking in the first week after the stations are installed, yet before the intervention begins or students are given aluminum water bottles. Then, additional readings will be taken at various points throughout the campaign, much like a water campaign done in schools in Germany.¹¹ The objective will be to see if the water-filling stations are dispensing more water after the program than at baseline. The data from these water-filling stations will also be used to evaluate any water spikes after the launch of a particular social marketing strategy in year two of the program. Those results will be used to refine the marketing approaches used at the schools.

Over time, improvement in beverage selection by these teenagers will also be tracked by responses to the national Youth Risk Behavior Study (YRBS). The YRBS asks high school students about soda consumption over the past 7 days. Specifically, the survey asks high school students to select one of the following options:

- Drank a can, bottle, or glass of soda or pop
- Drank a can, bottle, or glass of soda or pop one or more times per day
- Drank a can, bottle, or glass of soda or pop two or more times per day
- Drank a can, bottle, or glass of soda or pop three or more times per day

The Centers for Disease Control works with local health departments to administer this survey biannually. Los Angeles Unified School District receives data specific for the district, although not broken down by school. If these responses show a decline over time, the improvement might be loosely correlated with the implementation of the Drink Switch program and 10 of the District's 94 high schools.

There are a few potential challenges in analyzing the data. The first is the fact that the social marketing aspect of the intervention program is designed to be disseminated not only in the schools, but also to the community as a whole. As such, the social marketing will impact the environment of the control high schools. Students at these schools may find, for instance, that corner grocery stores begin selling fewer sugary beverage options. This could result in a decline in sugary beverage consumption by students at the control schools despite the schools not having the environmental changes of new water-filling stations, nor the educational component in the 9th grade. Simply by changing the environment in the community, the control high schools may be influenced. Nevertheless, the control schools will not have had the full 9-lesson curriculum so the impact should be less than the intervention schools.

In addition to outcome measurement and evaluation, it will be important to conduct fidelity measures with eight high schools participating. Ensuring the program is implemented consistently is key. The full time program director and part-time community organizer will conduct occasional random class evaluations throughout the duration of the program to determine if the course material is being disseminated correctly by dietetic students. The evaluation tool will be based on the trainings that were used during the first three months before the program to teach dietetic students. During

these random evaluations, the program director and community organizer will also ask the students in the class being assessed to hold up their Drink Switch water bottles. A count will be taken of the refillable water bottles that were given out at the start of the year, and the results collected will be able to assess how well the water bottles have been implemented into the program and how useful the students perceive them to be in their water consumption habits. The presence of more water bottles in the classroom will indicate a positive adoption of the program by both the students at the schools and the teachers who are conducting the program.

More importantly, however, additional questions regarding the ninth-grade students' opinion of the program will be added to the end of the post-tests. These qualitative questions will be open-ended and include:

1. Do you think the program material is being taught effectively, why or why not?
2. What do you think could be done, if anything, to improve the way that the importance of water consumption is being taught in class?
3. What was your favorite aspect of the Drink Switch program and why?
4. What was your least favorite aspect of the Drink Switch program and why?

Students' responses will shed light on how the program and its messages have been integrated into the culture of the school. Moreover, it will provide another source of feedback on how the outreach can be continuously improved.

The teachers and principals at the high schools will also be given a separate set of questions from the students asking more specific questions about the implementation of the Drink Switch Program at the high school. These questions will focus on the opinion of the school faculty on whether they believe the program was worthwhile and added value to the classroom lessons or if it was too time intensive and resources could have been spent elsewhere. Similarly, other members of the CAG will be surveyed for their

impressions of the program. This will be done annually so that the suggestions can be incorporated into the program in an ongoing fashion. Members of the community like fast food owners and corner groceries will provide valuable feedback in terms of how the Drink Switch outreach is impacting sales and their choice of products. The YMCA and club sports team coaches will also have important input into the effectiveness of the program in terms of what teens are drinking outside of school. In particular, these CAG members from the community will be able to evaluate the social marketing pieces of Drink Switch in terms of its quality and reach. They will be surveyed on whether or not they have seen or received messaging about Drink Switch and in what form. This will help determine the penetration and reach of the social marketing campaign.

Another important factor to measure in the process evaluation is how well the bilingual approach of the course material worked. Attention needs to be given to the quality of translations from English to Spanish and whether the information sends a message equal to that of the English version of the program materials. Once materials have been translated, they will be reviewed by a group of bilingual students and the high school Spanish teacher. The group will provide feedback on any necessary translation changes.

Finally, there needs to be regular checks of the water-filling stations installed at the schools to ensure that they are maintained and working well throughout the school year so that students may always have continuous access to clean drinking water. These checks will be at least every three weeks and will be carried out by the school maintenance crews. Any station found to be working less than optimally will be replaced in 24 hours or less.

D. Capacity and Experience of the Applicant Organization

Since its establishment in 1857, the LACDPH has worked to serve its residents by addressing issues ranging from disease control to health prevention strategies. In the process, it has gained experience and capability in successfully leading population health initiatives over the years. The department conducts a variety of outreach programs designed to protect the health and wellbeing for all persons in LA County. Our focus is on the LA County population as a whole, and we partner with a network of public health professionals in the community to conduct our activities. LA County residents are protected every day by hundreds of public health measures. Ensuring safe drinking water, vaccinating children, and general health education are just a few examples of public health initiatives the department is currently implementing with success.

Department staff and leadership have extensive experience in producing results when it comes to program implementation including large-scale evidence-based programs.

Examples include maternal health outreach like Choose Health LA (CHLA) Moms, as well as child health programs like CHLA Early Childhood Obesity Prevention Initiative (ECOPI). Both programs are designed for maternal well-being and the promotion of sufficient childhood physical activity and healthy eating habits. These programs have been underway since 2012 and have reached more than 6,000 families in the LA area.

The LACDPH has also received several grants in regards to its nutritional work. ECOPI is funded by a 4-year grant from First 5 LA and the LA County Nutrition Action Plan (CNAP) is funded by the Nutrition Education Obesity Prevention grant. CNAP focuses on decreasing obesity levels, increasing fruit and vegetable consumption, and decreasing the prevalence of diet-related chronic disease among low-income,

Supplemental Nutrition Assistance Program eligible populations. CNAP works in close collaboration with organizations such as Champions for Change, Women, Infants, and Children, CalFresh, the LA County Office of Education, The LA Unified School District Board of Education, and the California Center for Public Health Advocacy.

Additionally, LACDPH has researched and assessed similar water-promotion programs across the country. Our expert team of public health professionals have brought their county experience to this knowledge base and devised a solid plan of action for the Drink Switch program. With these similar programs as guidelines, LACDPH will be able to conduct an efficient and effective program in the Drink Switch campaign.

In terms of capacity, the Department of Health's Chronic Disease & Injury Prevention (CDIP) division consists of 40 full time staff involved in multiple outreach initiatives. The division's Nutrition and Physical Activity Program will take the lead on the Drink Switch Program. The 24-member team is led by a Program Director and includes several nutritionists, program analysts, community workers and health educators. This team will oversee Drink Switch and the additional grant-funded staff.

The LACDPH abides by the Equal Employment Opportunity (EEO)/Non-Discrimination Policy set in place by county policy and state and federal laws. The EEO states that no one shall be discriminated against based on "race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, age, sex or sexual orientation." LA County government also enforces a strict no-sexual harassment policy and has established both an ADA Compliance Program and Diversity Policy to promote equal opportunity and cultural awareness (http://file.lacounty.gov/lac/cms1_113484.pdf).

E. Partnerships and Collaboration

LACDPH will partner with key stakeholders at the schools and in the community. These would include the school district's superintendent, principals, science teachers, and student leaders as well as external partners like the LA Dietetics Association, the PTSAs of the eight intervention high schools, community organizers, and business associations. Like-minded partnerships who could add their expertise include: The California Endowment's Drink Up campaign, previous partners for the CHLA ECOPI program, and the Los Angeles Food Policy Council. Additionally, the LACDPH department of communications will secure the support of a marketing agency to work with the student ambassadors on their social marketing campaign. By helping the students create appealing messaging for the Drink Switch campaign, the marketing firm will help ensure the messaging shared in the community helps to raise awareness of the importance of substituting water for sugary drinks.

Additionally, LACDPH has secured the commitment of Cal State LA's Coordinated Program in Dietetics. Cal State LA has arranged for current dietetics students to practice their knowledge by working with student ambassadors in 10th and 11th grades from the ten SPA 6 high schools. Through this partnership, dietetics students and professionals from the LA Dietetics Association will work with LACDPH to design lesson plans that will be easily implemented in a classroom setting and can be adopted by science teachers as part of their curriculum. This curriculum will cover not only the importance of water consumption in place of sugary drinks, but it will also discuss other healthy behaviors such as good nutrition and adequate physical activity. Attached at the end of this document are the Memorandum of Understandings (MOUs) of both the LA

Dietetics Association and Cal State LA's Coordinated Program in Dietetics agreeing to work with LACDPH on the Drink Switch Program in this aspect.

Drink Switch will also collaborate with the PTSAs at each of the designated schools. The members of the PTSAs will work with the program leaders to create appropriate messaging that can be shared with families at home. In this way, parents can support Drink Switch and help change the home environment to encourage water consumption over sugary beverages. The PTSA will also explore ways to integrate the Drink Switch program into afterschool sports such as football or marching band and at sporting events such as swim meets and lacrosse games. Coaches from these sports teams will be able to understand the program's purpose through the PTSA's outreach and ensure that their athletes get enough water.

Community organizations and local business will also be important to bring on board in order to implement the systems change needed to support the water-drinking behavior change. A community organizer will seek partnerships with recreational and athletic activity leaders outside of school as well as business partners like corner stores in the community.

A final crucial partnership for program is with the main community influencers in SPA 6. Since the racial and ethnic makeup of the target population is mostly Latino and African American, it will be important for Drink Switch to ally with The Brotherhood Crusade and the Watts/Century Latino Organization. These two groups will be able to spread the program's message to their community in a culturally appropriate way. Attached at the end of this document are the MOUs from these two organizations

agreeing to be a part of the Drink Switch CAG and work in the SPA 6 community to spread the program's messaging.

F. Project Management

LACDPH will work to gain school and community support necessary to build a bottom up management style. Commitments and timelines will need to be formulated by a designated manager from the department and agreed upon by all those tasked with carrying out the project. The Drink Switch program will necessitate building the support of stakeholders, creating a timeline, assuring compliance with the timeline, and measuring and monitoring the success of the program with regular check-ins to make sure the program is on the right course.

School principals will spread details and information about the program with parents, students, and neighboring schools. Science teachers at the schools where the Drink Switch is implemented need to understand the science behind the program and work with dietetics students to include the Drink Switch curriculum in their classes.

In terms of managing the social media aspect of the program, the manager of Drink Switch at LACDPH will need to decide on who will work with the ambassador group at the schools. Dietetic students from the Cal State L.A. dietetics program will be able to work with the student ambassadors at the ten high schools to keep the high school students' progress on track and ensure that the youth understand the health benefits of the program. This can be done through co-writing a curriculum that can be easily adapted for school time to make it easier to remember to drink water and avoid soda. Additionally, the high school ambassadors for Drink Switch will work with an advertising agency through the LACDPH department of communications.

The PTSAs at the ten LA high schools will reach out to students and their families to spread awareness of the new program and how to get involved. This outreach will also help reinforce Drink Switch's message in the form of brochures and articles and updates in the school newsletters. These brochures can also be formed through the partnership with the advertising agency.

The next step in managing the Drink Switch program will be to encourage the high school sports teams involved in the program as well. All coaches of sports at the high schools and persons in charge of other extracurricular activities such as marching band will be advised on how best to implement the Drink Switch Program. This will be done in part through the curriculum set up jointly by dietetics majors from Cal State L.A. Additionally, coaches will be influenced by high school ambassadors in their activities aimed at ensuring students adhere to the program and have access to drinking water instead of sugary sports drink alternatives.

An essential part of the project management piece will be to ensure the sustainability of the program. This will start at the beginning of the Drink Switch program when schools are first recruited. Clear communication with everyone in the school district, along with the CAG will help create a common understanding that the program component lasts for three years only. Work on changing the environment and building sustainability needs to be addressed throughout the three years. When LACDPH concludes the program, the objectives will be that the CAG and school district will be able to continue on with the messages of healthy water consumption. Moreover, environmental changes at the schools like the water filling stations, along with a changed community environment that supports water will support the continuation of the

program's messages. If at all possible, management will apply for additional funding to be able to disseminate the program to new schools in LA county including the two control schools from this initial outreach.

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Appendix

Logic Model:

Inputs	Activities	Participation	Short-Term Outcomes (~1-2 years)	Intermediate Outcomes (~3-5 years)	Long-Term Outcomes (~5 or more years)
<ul style="list-style-type: none"> • Funding • School staff • Partnerships • Primary and secondary data to demonstrate need • Trainers to train peer educators • Transportation • Materials—ads and curriculum • Collect data on how to make the “Drink Switch” campaign and educational activities effective in reducing consumption of sugary drinks and ultimately reducing overweight and obesity—through analyzing other studies that have been done on similar interventions • Conduct interviews & focus group sessions for Latino and African American audiences, pretest messaging and proposed campaign materials including curriculum 	<ul style="list-style-type: none"> • Training peer educators to share information with others in their age group • Program curriculum is implemented in science classes • Launch social media campaign and deliver message to schools • Provide opportunity for intra-school water consumption competition • Install water-filling stations and check compliance of soda machines with Los Angeles Unified School District (LAUSD) healthy beverage standards 	<ul style="list-style-type: none"> • High school students • Peer educators • Science teachers • Dietetics students • Marketing advisor (posters, T shirts, bilingual curriculum materials) • Plumbers to install water-filling stations • CAG members 	<ul style="list-style-type: none"> • Reduction in sugary drink consumption among teens in South LA. • Increased water consumption 	<ul style="list-style-type: none"> • High-risk individuals will lower their risks for obesity-related chronic diseases like Type 2 Diabetes • Lowered obesity rates among children 	<ul style="list-style-type: none"> • Health behaviors will track into adulthood—decreased sugary drink consumption • Decreased overweight and obesity in adults • Lowered rates of obesity-related chronic diseases in adults

<ul style="list-style-type: none"> • Develop new materials and marketing campaign including ads and curriculum • Recommend revisions as needed and finalize “Drink Switch” campaign materials and curriculum • Recruit schools to participate 	<ul style="list-style-type: none"> • Bimonthly meetings of Community Advisory Group (CAG) 				
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Work Plan Template

Grantee Name: Los Angeles County Department of Public Health

Funds Requested: \$785,513

<p>Goal: The goal of the Drink Switch Program is to lower overweight and obesity and rates of obesity-related chronic diseases in South LA adults by shaping health behaviors in school that will track into adulthood.</p>		
<p>Objective 1: One month before the Drink Switch implementation, all the materials for the Drink Switch campaign will be designed and printed and ready for implementation.</p>		
<p>Rationale for Objective 1: It is important to prepare materials for Drink Switch before the program is implemented and to assure that curriculum and resources are culturally appropriate and resonate well with the target population.</p>		
<p>Measures of Accomplishment for Objective 1:</p> <ul style="list-style-type: none"> a. Formative research is conducted in the community and informs the messaging for the materials. b. Community influencers are consulted and provide culturally appropriate input on materials for the different demographic groups in SPA 6. c. Dietetics students are trained on how to implement the Drink Switch curriculum in 9th grade biology classes. 		
<p>Activities in support of Objective 1:</p> <ul style="list-style-type: none"> a. CAG provides input on cultural appropriateness of materials and what messages would best work for the community. Additionally, conduct focus groups to give feedback on Drink Switch messaging and implementation strategies. b. Form partnerships with important community organizations such as the Brotherhood Crusade and the Watts/Century Latino Organization and seek input on materials. c. Conduct trainings at beginning of program implementation. 	<p>Person/agency responsible for Accomplishing Activities:</p> <ul style="list-style-type: none"> a. LACDPH, CAG b. LACDPH, Brotherhood Crusade, Watts/Century Latino Organization c. LACDPH, LA Dietetic Association, Cal State LA Coordinated Program in Dietetics 	<p>Activity Timeline:</p> <ul style="list-style-type: none"> a. All three years b. All three years c. First 3 months before program start

<p>Goal: The goal of the Drink Switch Program is to lower overweight and obesity and rates of obesity-related chronic diseases in South LA adults by shaping health behaviors in school that will track into adulthood.</p>		
<p>Objective 2: Over the course of the program (3 years), increase the rate of water consumption among high school students.</p>		
<p>Rationale for Objective 2: Changing health behavior at an early age to get people to choose water as a drink instead of sugary beverages will track into adulthood and lower overweight and obesity and risk of obesity-related chronic diseases.</p>		
<p>Measures of Accomplishment for Objective 2:</p> <p>a. Installation of 5 new water fountains per intervention high school and checking compliance of soda vending machines with LAUSD healthy beverage standards. Checking number of water bottles refilled with fountain bottle counter.</p> <p>b. Pre-test and post-tests across all 10 high schools, including the 2 control schools, administered in science classes in addition to 24-hour questionnaires.</p> <p>c. Tracking of social marketing activities</p>		
<p>Activities in support of Objective 2:</p> <p>a. Installation of water fountains at schools and distribution of refillable aluminum water bottles.</p> <p>b. Incorporation of healthy drink curriculum in science classes. Training teachers and dietetic students on how to collaborate in the classroom.</p> <p>c. Student-run social marketing activities.</p>	<p>Person/agency responsible for Accomplishing Activities:</p> <p>a. LACDPH</p> <p>b. Dietetic student interns from Cal State LA, student ambassadors, and science teachers at the 8 intervention schools.</p> <p>c. Fraser Communications, student ambassadors</p>	<p>Activity Timeline:</p> <p>a. Within first 6 months of program</p> <p>b. Years 2 and 3</p> <p>c. Years 2 and 3</p>

<p>Goal: The goal of the Drink Switch Program is to lower overweight and obesity and rates of obesity-related chronic diseases in South LA adults by shaping health behaviors in school that will track into adulthood.</p>		
<p>Objective 3: Over the course of the program (3 years), reduce sugary drink consumption among the 12,000 high schoolers.</p>		
<p>Rationale for Objective 3: Reducing consumption of sugary drinks will reduce overweight and obesity and risk of obesity-related chronic diseases later in life.</p>		
<p>Measures of Accomplishment for Objective 3:</p> <ul style="list-style-type: none"> a. Checking compliance of soda vending machines with LAUSD healthy beverage standards. b. Pre-test and post-tests across all 10 high schools, including the 2 control schools, administered in science classes in addition to 24-hour questionnaires. c. Tracking of social marketing activities and building sustainability of program. 		
<p>Activities in support of Objective 3:</p> <ul style="list-style-type: none"> a. Checking compliance of soda vending machines with LAUSD healthy beverage standards. b. Incorporation of healthy drink curriculum in science classes. c. Student-run social marketing activities. 	<p>Person/agency responsible for Accomplishing Activities:</p> <ul style="list-style-type: none"> a. LACDPH b. Dietetic student interns from Cal State LA, student ambassadors, and science teachers at the 8 intervention schools c. LACDPH, marketing representative from Fraser Communications 	<p>Activity Timeline:</p> <ul style="list-style-type: none"> a. Within first 6 months of program b. Years 2 and 3 c. Years 2 and 3

Budget

Line Item	Cost—year 1	Cost—year 2	Cost—year 3	Total
Personnel & Staffing Expenses				
<u>Salaries:</u> --Full Time Program Director (3% incremental raise)	\$70,000	\$72,100	\$74,263	
--.5 Full Time Community Organizer	\$35,000	\$36,050	\$37,131	
--.25 Full Time Biostatistician	\$25,000	\$25,750	\$26,522	
	\$130,000	\$133,900	\$137,917	\$401,817
<u>Fringe Benefits:</u> --Program Director (10% of salary for health insurance and retirement contribution)	\$7,000	\$7,210	\$7,426	\$21,636
<u>Stipends:</u> --Dietetic students—2 student per each of 8 schools; \$50/week (Oct.-May) 32 weeks x \$100 x 8 =	\$25,600	\$25,600	\$25,600	\$76,800
--Part-time data collection staff –2 per school, \$500/week (twice each year--Pre-test in October, Post-test in May)	\$20,000	\$20,000	\$20,000	\$60,000
--Marketing firm social media leads—1 per each of 8 intervention schools: \$100 per visit, 6 monthly visits/yr. (beginning in year 2)		\$4,800	\$4,800	\$9,600
Subtotal	\$182,600	\$191,510	\$195,743	\$569,853
Materials and Equipment				
<u>Water-filling stations:</u> (5 per each of 8 intervention schools) Elkay EZWSRK Retrofit EZH2O Bottle Filling Station for EZ / LZ Water Coolers--\$427 per unit, \$2,135 per school	\$17,080			\$17,080

<u>Printing:</u> --4-page, Bilingual Information packets for parents (12,000 x 12 = 48,000) --2-sided, Student Lesson plans (3,000 x 9 lessons x 2 semesters = 33,000) --Curriculum booklets for teachers and dietetic students (estimated 12 pages x 50 = 600) --Segmentation survey evaluation, pre-intervention test (15,000) --Mid-year Assessment survey (12,000) --Post- Evaluation Surveys (15.000) Total: 123,600, .15/per	\$18,540	\$18,540	\$18,540	\$55,620
<u>Translation services:</u> --Parental information packets-- \$60/per page	\$240			\$240
<u>Program Supplies:</u> Poster board, markers, tape, banners, stickers, and other social marketing materials for in-school and community awareness activities, prizes for messaging contest; ambassador t-shirts-- \$2,500 per school	\$2,500	\$2,500	\$2,500	\$7,500
Branded “Drink Switch”, Refillable <u>Aluminum Water Bottles</u> --\$1.85 each x 12,000 students + 200 teachers, coaches, and community members (\$1.85 x 12,200)	\$22,570	\$5,550 Assumes only 9 th grade recipients	\$5,550 Assumes only 9 th grade recipients	\$33,670
<u>Social marketing ambassadors Seminars</u> --participant activities & healthy snacks (year 2, 3)-- Monthly student/marketing led seminars, \$50/per (Oct.-April)—7 meetings x 8 schools = 56		\$2,800	\$2,800	\$5,600
Subtotal	\$60,930	\$29,390	\$29,390	\$119,710
Program and Operating Costs				

<u>Installation of water stations: plumbing costs: \$1,000 per intervention school</u>	\$8,000			\$8,000
<u>Trainings: (including refreshments):</u>				
--Teacher & Dietetic student training: annual, plus mid-year refresher webinar (3 teachers, 2 Dietetic students per school = 40 total) 40 x \$8 bfast plus \$15 lunch = \$920	\$920	\$920	\$920	
--Project Director's Meeting (Washington, DC)—conference registration, travel, accommodations, meals	\$1,470	\$1,470	\$1,470	
--Annual Regional Training (California) (yrs. 2 & 3) for 3 staff--conference registration, travel, accommodations, meals	\$1,360	\$1,360	\$1,360	
--Social Media student ambassador annual 2-hour, after school, Advocacy training (estimated 2,000 students over 8 school trainings), fruit offered	(none)	\$250	\$250	\$11,750
<u>Curriculum Development:</u>				
--Collaborative review with the Los Angeles District of the California Academy of Nutrition and Dietetics	\$150			\$150
<u>Mileage: (federal IRS rate 2016—54-cents/mile)—estimated usage</u>				
--Staff mileage among schools and in the community				
--Volunteer (dietetic students and social media pros) mileage to classrooms and seminars	\$15,000	\$15,000	\$15,000	\$45,000
<u>Recruitment Activities:</u>				
--Principal and PTSA meetings at each of 8 schools	\$100	\$100	\$100	
--Community Advisory Group—bimonthly meetings (Oct-June, 5 total)	\$250	\$250	\$250	

				\$1,050
<u>Focus Groups</u> (conducted/moderated by Fraser Communications \$6,000/each): --Initial focus group for pre-test messaging --Second focus group to review of curriculum and lesson plans --Year 1, mid-year review of program implementation	\$18,000	\$6,000	\$6,000	\$30,000
Subtotal	\$45,250	\$25,350	\$25,350	\$95,950
TOTAL				\$785,513

Budget Justification

Personnel and Staffing Expenses

Salaries: \$401,817

Luke Hu, DrPH, will serve as a full time Program Director for the Drink Switch Program. Dr. Hu is currently a professor at California State University, Long Beach in the nutrition and dietetics department, lecturing and conducting research on topics such as community nutrition and metabolic functions of nutrients. Dr. Hu has had extensive experience in community outreach and program development and evaluation, which make him ideally suited for position as Program Director. He has previously worked for four years as the director of the LACDPH’s Nutrition and Physical Activity Program. During his time as the director, he worked with partners such as CalFresh and California WIC and oversaw 3 main program areas: CNAP, Obesity Prevention Strategies, and Nutrition Education. This last area especially focused on outreach to low-income Los Angeles families. In addition to his work at the Nutrition and Physical Activity Program,

Dr. Hu has also had experience as a project director for the Hawthorne School District from 2004-2010 targeting behavior change in low-income families. These skills and his relationships with key members of the Los Angeles public health community will prove advantageous for the success of the Drink Switch Program. Dr. Hu will work full time as Program Director (approximately 40 hours a week) and be accountable for the initiation of environmental changes in the form of water-filling stations at the schools. He will also be in charge of curriculum development and implementation, and will maintain regular contact with community partners to the program, including collaboration with the social marketing firm and the Cal State LA Dietetics Department. Dr. Hu will work with Ms. Molly Radagast to supervise the budget as well, and will supervise Community Organizer Molly Radagast and Biostatistician Mary Took. Overall, Dr. Hu will be in charge of the success of the program.

Molly Radagast, MPH, RD is currently the Project Director for the LACDPH's CDIP division. Ms. Radagast has worked as a Project Director for the LACDPH since May 2012, and previously as a Special Projects Coordinator in 2011. Ms. Radagast is very involved in matters such as health equity and health education, and has several years of experience with program management and evaluation, which makes her ideally suited for the position of Community Organizer. She has previously worked at the ABC Unified School District, also working on the USDA-funded program, where she managed a USDA-funded program to prevent chronic diseases by promoting nutrition and physical activity in low-income schools. She later served as project director for 9 months at the Hawthorne School District, where the same program from the ABC Unified School District was implemented. Ms. Radagast has nearly two years of professional experience

as a Nutrition Educator and has served as Program Manager for UCLA's Division of Cancer Prevention and Control. These previous experiences have all contributed to Ms. Radagast's valued knowledge in her field and will contribute greatly to her work on the Drink Switch Program. Ms. Radagast will spend half of her work hours (approximately 20 hours a week) on the Drink Switch Program as the full time Community Organizer. In this position, she will organize trainings for teachers and dietetic students, arrange focus groups and recruitment activities, and establish dates for student social marketing ambassador seminars. She will also be in charge of recruiting and staffing the CAG. Ms. Radagast will also work with Dr. Hu to oversee the program's budget.

Mary Took, MPH, will serve as the program's biostatistician. Ms. Took is currently a program analyst at the LACDPH, and has worked for nearly three years gathering and analyzing data for strategic planning, as well as preparing reports and presentations related to program goals and achievements. She is well-respected by her peers and is well-known in her division, and her qualifications make her an ideal candidate to work on the Drink Switch Program. As biostatistician, Ms. Took will oversee data collection and assist with data analysis and dissemination. She will also use system dynamics to ensure that the program is achieving its goals.

Fringe Benefits: \$21,636

10% of the Program Director's salary will be set aside for health insurance and retirement contributions.

Stipends: \$146,400

The Drink Switch Program will partner with the nearby Cal State LA dietetics program and work with two dietetics students currently enrolled in their studies. The students will need to exhibit good time management and adequate knowledge of their area of study, as well as have time available to work with the students at the selected SPA 6 schools.

Part-time data collectors will be used for one week at the beginning and end of the school year to administer the pre- and post-test evaluations at all ten schools. Twenty collectors will be needed to collect the data in a timely manner.

LACDPH will also partner with Fraser Communications marketing firm to work on the Drink Switch Program being implemented at the SPA 6 schools. Fraser Communications has previously worked with the LACDPH and will be familiar with its workings and staff members.

Materials and Equipment

Water-filling stations: \$17,080

In order to successfully implement our program, the first step that needs to be taken in the school setting is environmental change. These filling stations will facilitate access to a clean, reliable source of drinking water on school campuses and will boost students' likelihood of consuming water when they are thirsty.

Printing: \$55,620

Education is key in behavior change. Students and their families will benefit from information packets detailing the benefits of choosing water over soda consumption. The packets will need to be printed in both English and Spanish. Approximately 48,000

packets will need to be printed. Two-sided student lesson plans for the classroom will also needed to be printed in addition to curriculum booklets for teachers and the dietetic students working with the high schoolers. These will ensure that learning about the benefits of water will happen in the classroom as well as at home. Finally, Pre-, Mid-, and Post- Intervention paper surveys will need to be printed. Having paper surveys filled out in school will ensure the maximum number of responses from students.

Translation Services: \$240

Information packets sent home to parents will need to be translated into Spanish to ensure maximum comprehension of the program and its intentions.

Program Supplies: \$7,500

Social marketing material for student ambassadors will be needed to maintain awareness and enthusiasm for the program as it progresses. These materials may include poster board, markers, tape, student ambassador T-shirts, and prizes for messaging contests.

Refillable Water Bottles: \$33,670

One refillable branded aluminum water bottle will be distributed to each participating student at the eight intervention high schools. The intention of the water bottles is to provide incentives for students to use the drinking stations more regularly and increase their uptake of water.

Social Marketing Seminars: \$5,600

Monthly seminars led jointly by student ambassadors and marketing firm social media leads will be conducted at the eight intervention schools for a total of 14 meetings

in years 2 and 3. These seminars will focus on participant activities at the school and ensure that the program is progressing as planned.

Program and Operating Costs

Installation of water stations: \$8,000

Each of the eight intervention schools will require plumbing assistance in order to install the Elkay Bottle Filling Stations. Installing five units per school is estimated to take 10 hours of work at a rate of \$100/hour for a total of \$1,000 per school x 8 schools equally \$8,000.

Trainings: \$11,750

Teacher and Dietetic Student Trainings will take place annually in person with an additional mid-year refresher webinar each year. Each school will send their three 9th grade biology teachers for a total of 24 teachers. Additionally, the dietetics students who will be assisting, two per school, for a total of 16 will join the teachers. The trainings are essential so that the entire program and curriculum can be reviewed in full. Breakfast and lunch will be served for a total of \$920 each year or \$2,760.

The Program Director will attend the annual Washington, D.C. meeting of Project Directors to present on the findings from the research and learn from other public health peers. The conference registration is \$350, travel from Los Angeles if \$550, 2-night stay in D.C. at \$390 and 3 days of meals at \$180 (\$60 per diem) for a total of \$1,470 each year for a total of \$4,410.

In Years 2 and 3 of the program, it is requested that the Program Director, Community Organizer and Biostatistician be funded to attend the annual State Department of Health, California Regional Training in Sacramento. The conference

registration fee is \$100 per person, with flights from LA to Sacramento at \$200 each, and \$100 for a single hotel night with another \$53 per person for travel meals. The total per person is \$453 times the three staff attending equals \$1,360 times 2 years for a total of \$2,720.

An Advocacy training is requested annually at each of the eight intervention schools in Years 2 and 3 of the program. These trainings are for the student social media ambassadors to learn about advocacy and how best to position the Drink Switch campaign in social media and in the community. As ambassadors, they will learn how to influence opinion and communicate the need for the campaign. The training is planned for 2 hours after school. About 250 students are expected to attend; whole fruit will be offered as refreshments at a cost of \$250 each year (Total \$500).

Curriculum Development: \$150

Drink Switch staff will collaborate with the California Academy of Nutrition and Dietetics to research the most effective way to embed the program messaging into the ninth grade Biology course. The 9-lesson program will include specific lesson plans and activities to engage the students and result in behavior change. \$150 is requested to defray the costs of collaboration meetings and research.

Mileage: \$45,000 (at the federal IRS 2016 rate of \$0.54/mile)

These dollars, \$15,000 per year, are based on estimated usage for three staff traveling among the schools located across a 10-mile radius. These would include daily check-ins at the schools, collaboration meetings and recruitment. Additionally, volunteer mileage for dietetic students and marketing firm personnel would come from this budget line.

Recruitment Activities: \$1,050

Recruitment of the schools into the program will include meetings with principals, boards of education, superintendent and teachers, students and parents. \$100/year is requested for refreshments during these recruitment activities for a total of \$300.

CAB bimonthly meetings will be conducted throughout the calendar year including the summer months when school is not in session. These meetings will solidify the support of the community in creating a healthier environment for the students. Attendees will include, community leaders, business owners, club sports coaches, community center directors, and parks and recreation staff. A small budget of \$250 per year is requested for refreshments (\$750 total).

Focus Groups: \$30,000

Essential to the project, these focus groups will bring out the feedback and response from program participants and the community. With this knowledge, the Drink Switch messaging will be shaped and pre-tested. Additional focus groups will work to preview the curriculum and lesson plans. A mid-year focus groups session will also be conducted to check on program implementation. Fraser Communications of Los Angeles will be contracted to conduct the focus groups including participant recruitment, focus group moderation, transcription of the focus group findings and a finished report with the conclusions. The cost is \$6,000 per focus groups, with three focus groups in the first year for a total of \$18,000. The second and third years, only one focus group will be held to receive feedback midyear on implementation. The total cost is \$30,000.

Memorandums of Understanding (MOUs):

1. LA Dietetics Association
2. Cal State LA Coordinated Program in Dietetics
3. Brotherhood Crusade
4. Watts/Century Latino Organization

Action	3 Months Prior	Month One	Month Two	Month Three	Month Four	Month Five	Month Six	Month Seven	Month Eight	Month Nine	3 Months Later
New water stations installed	X										
Pre-tests distributed		X									
Curriculum created	X										
Dietetics students work with high schools		X	X	X	X	X	X	X	X	X	
Post-tests distributed										X	
Second Post-tests distributed											X

Gantt Chart: 1st year plan